ASRock Rack

OPEN
Industry Standard, Flexible Architecture

GREEN
Less Heat, Less Power Consumption

STABLE
Robust Design, Quality Parts

Stable and
Reliable Solution

Server/Workstation
Motherboard

C2750D4I+
C2750D4I
C2550D4I

User Manual

English

Version 1.0
Published November 2014
Copyright©2014 ASRock Rack Inc. All rights reserved.

Copyright Notice:

No part of this documentation may be reproduced, transcribed, transmitted, or translated in any language, in any form or by any means, except duplication of documentation by the purchaser for backup purpose, without written consent of ASRock Rack Inc.

Products and corporate names appearing in this documentation may or may not be registered trademarks or copyrights of their respective companies, and are used only for identification or explanation and to the owners' benefit, without intent to infringe.

Disclaimer:

Specifications and information contained in this documentation are furnished for informational use only and subject to change without notice, and should not be constructed as a commitment by ASRock Rack. ASRock Rack assumes no responsibility for any errors or omissions that may appear in this documentation.

With respect to the contents of this documentation, ASRock Rack does not provide warranty of any kind, either expressed or implied, including but not limited to the implied warranties or conditions of merchantability or fitness for a particular purpose.

In no event shall ASRock Rack, its directors, officers, employees, or agents be liable for any indirect, special, incidental, or consequential damages (including damages for loss of profits, loss of business, loss of data, interruption of business and the like), even if ASRock Rack has been advised of the possibility of such damages arising from any defect or error in the documentation or product.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) this device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

CALIFORNIA, USA ONLY

The Lithium battery adopted on this motherboard contains Perchlorate, a toxic substance controlled in Perchlorate Best Management Practices (BMP) regulations passed by the California Legislature. When you discard the Lithium battery in California, USA, please follow the related regulations in advance.
"Perchlorate Material-special handling may apply, see www.dtsc.ca.gov/hazardouswaste/perchlorate"

ASRock Rack's Website: www.ASRockRack.com

Contact Information

If you need to contact ASRock Rack or want to know more about ASRock Rack, you're welcome to visit ASRock Rack's website at www.ASRockRack.com; or you may contact your dealer for further information.

ASRock Rack Incorporation

6F., No.37, Sec. 2, Jhongyang S. Rd., Beitou District,

Taipei City 112, Taiwan (R.O.C.)

Contents

Chapter 1 Introduction **1**

1.1 Package Contents 1

1.2 Specifications 2

1.3 Unique Features 5

1.4 Motherboard Layout 6

1.5 I/O Panel 10

1.6 Block Diagram 12

Chapter 2 Installation **13**

2.1 Screw Holes 13

2.2 Pre-installation Precautions 13

2.3 Installation of Memory Modules (DIMM) 14

2.4 Expansion Slots (PCI Express Slots) 16

2.5 Jumper Setup 17

2.6 Onboard Headers and Connectors 18

2.7 Unit Identification purpose LED/Switch 23

2.8 Driver Installation Guide 23

Chapter 3 UEFI Setup Utility **24**

3.1 Introduction 24

3.1.1 UEFI Menu Bar 24

3.1.2 Navigation Keys 25

3.2 Main Screen 26

3.3 Advanced Screen 27

3.3.1 Easy Raid Installer 28

3.3.2 Storage Configuration 29
3.3.3 ACPI Configuration 30
3.3.4 Super IO Configuration 31
3.4 H/W Monitor Screen (Hardware Health Event Monitoring) 36
3.5 IntelRCSetup 38
3.5.1 Processor Configuration 39
3.5.2 North Bridge Configuration 41
3.5.3 South Bridge Chipset Configuration 42
3.5.4 System Event Log 44
3.6 Server Management 45
3.7 Event Logs 48
3.8 Security Screen 49
3.9 Boot Screen 50
3.10 Exit Screen 52

Chapter 4 Software Support 53

4.1 Install Operating System 53
4.2 Support CD Information 53
4.2.1 Running The Support CD 53
4.2.2 Drivers Menu 53
4.2.3 Utilities Menu 53
4.2.4 Contact Information 53

Chapter 5 Troubleshooting 54

5.1 Troubleshooting Procedures 54
5.2 Technical Support Procedures 56

5.3 Returning Merchandise for Service 56

Chapter 6: Net Framework Installation Guide 57

6.1 Installing .Net Framework 3.5.1 (For Server 2008 R2) 57

Chapter 1 Introduction

Thank you for purchasing ASRock Rack ***C2X50D4I Series*** motherboard, a reliable motherboard produced under ASRock Rack's consistently stringent quality control. It delivers excellent performance with robust design conforming to ASRock Rack's commitment to quality and endurance.

In this manual, chapter 1 and 2 contains introduction of the motherboard and step-by-step guide to the hardware installation. Chapter 3 and 4 contains the configuration guide to BIOS setup and information of the Support CD.

Because the motherboard specifications and the BIOS software might be updated, the content of this manual will be subject to change without notice. In case any modifications of this manual occur, the updated version will be available on ASRock Rack website without further notice. You may find the latest memory and CPU support lists on ASRock Rack website as well. ASRock Rack's Website: www.ASRockRack.com

If you require technical support related to this motherboard, please visit our website for specific information about the model you are using.
http://www.asrockrack.com/support/

1.1 Package Contents

- ASRock Rack C2550D4I / C2750D4I / C2750D4I+ Motherboard (Mini-ITX Form Factor: 6.7-in x 6.7-in, 17.0 cm x 17.0 cm)
- Support CD
- User Manual
- 6 x Serial ATA (SATA) Cables (Optional)
- 1 x I/O Shield

If any items are missing or appear damaged, contact your authorized dealer.

English

1.2 Specifications

C2550D4I / C2750D4I / C2750D4I+	
MB Physical Status	
Form Factor	Mini-ITX
Dimension	6.7" x 6.7" (17.0 cm x 17.0 cm)
Processor System	
CPU	***C2750D4I / C2750D4I+:*** Intel® Octa Core Avoton C2750 Processor ***C2550D4I:*** Intel® Octa Core Avoton C2550 Processor
Socket	FCBGA1283 SOC
System Memory	
Max. Capacity	64GB DDR3 ECC UDIMM
Socket	- 4 x 240-pin DDR3 DIMM slots - Support up to 64GB DDR3 ECC and UDIMM
Type	- Dual Channel DDR3 memory technology - Supports DDR3 1600/1333 ECC and UDIMM
Voltage	1.5V, 1.35V
Expansion Slot	
PCIe 2.0 x 8	1 slot (x8 mode)
Storage	
SATA Controller	***C2750D4I / C2750D4I+:*** Intel® C2750 : 2 x SATA3 6.0 Gb/s, 4 x SATA2 3.0 Gb/s ***C2550D4I:*** Intel® C2550 : 2 x SATA3 6.0 Gb/s, 4 x SATA2 3.0 Gb/s
Additional SATA Controller	- Marvell SE9172: 2 x SATA3 6.0 Gb/s, support RAID 0, 1 - Marvell SE9230: 4 x SATA3 6.0 Gb/s, support RAID 0, 1, 10
Ethernet	
Interface	Gigabit LAN 10/100/1000 Mb/s
LAN Controller	- 2 x Intel® i210 - Supports Wake-On-LAN - Supports Energy Efficient Ethernet 802.3az - Supports Dual LAN with Teaming function - Supports PXE
Management	
BMC Controller	ASPEED AST2300 : IPMI (Intelligent Platform Management Interface) 2.0 with iKVM support
IPMI Dedicated GLAN	1 x Realtek RTL8211E for dedicated management GLAN
Features	- Watch Dog - NMI

Gracphics	
Controller	ASPEED AST2300
VRAM	DDR3 16MB
Output	Supports D-Sub with max. resolution up to 1920x1200 @ 60Hz
Rear Panel I/O	
VGA Port	1 x D-Sub
USB 2.0 Port	2
LAN Port	- 2 x RJ45 Gigabit Ethernet LAN ports - 1 x RJ45 Dedicated IPMI LAN port - LAN Ports with LED (ACT/LINK LED and SPEED LED)
Serial Port	1 (COM1)
UID Button/UID LED	1
Internal Connector	
Auxiliary Panel Header	1 (includes location button & LED, front LAN LED)
IPMB Header	1
Fan Header	6 x 4-pin
ATX Power	1 (24-pin)
USB 2.0 Header	1 (support 1 via headers or 2 via headers controlled by USB_SEL1 and USB_SEL2 jumper)
Front Panel	1
System BIOS	
BIOS Type	64Mb AMI UEFI Legal BIOS
BIOS Features	- Plug and Play (PnP) - ACPI 1.1 Compliance Wake Up Events - SMBIOS 2.3.1 Support - DRAM Voltage Multi-adjustment - ASRock Rack Instant Flash
Hardware Monitor	
Temperature	- CPU Temperature Sensing - Motherboard Temperature Sensing
Fan	- CPU/Rear/Front Fan Tachometer - CPU Quiet Fan (Allow CPU Fan Speed Auto-Adjust by CPU Temperature) - CPU/Rear/Front Fan Multi-Speed Control
Voltage	Voltage Monitoring: +12V, +5V, +3.3V, CPU Vcore, DRAM, +1.1V, +1.0V, +BAT, 3VSB, 5VSB

Support OS	
OS	Microsoft® Windows® - Server 2008 R2 SP1 (64 bit) - Server 2012 (64 bit) Linux® - CentOS 6.4/5.10 (x32 and x64) (only support AHCI mode) - SUSE Enterprise Linux Server 11 SP1 (32 / 64 bit) - FreeBSD 9.1 (32 / 64 bit) - Fedora Core 19 (64 bit) - Ubuntu 12.04/12.10 (64 bit) Virtual: - VMWare ESXi 5.5
Environment	
Temperature	Operation temperature: 10°C ~ 35°C / Non operation temperature: -40°C ~ 70°C **For C2750D4I / C2550D4I motherboard, please install a CPU fan when the airflow throught the heat sink is below 2 CFM(Cubic Feet per Minute) for better ventilation.*

** For detailed product information, please visit our website: http://www.asrockrack.com*

Since Intel® Edisonville platform does not support RSTe feature, it is decided by OS inbox driver behavior. The Avoton processor integrated I/O's SATA2/3 driver is used inbox not Intel®. So according to Windows® 2008 R2 OS operation behaviors, it needs to take about ~60sec refresh timer when users unplug SATA device. You have to go in manually to detect the drive and recognize it. In other words, the operation system will quickly response the SATA plug in/out status about ~10sec when users install the RSTe driver if the platform supports it.

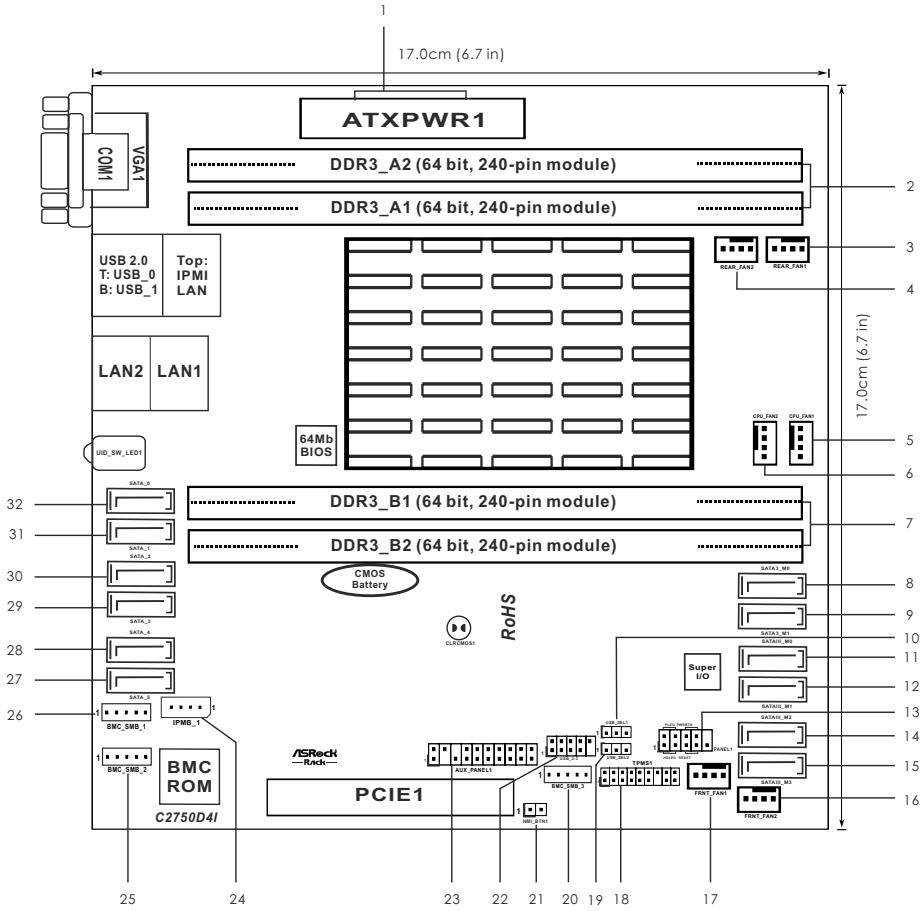
English

1.3 Unique Features

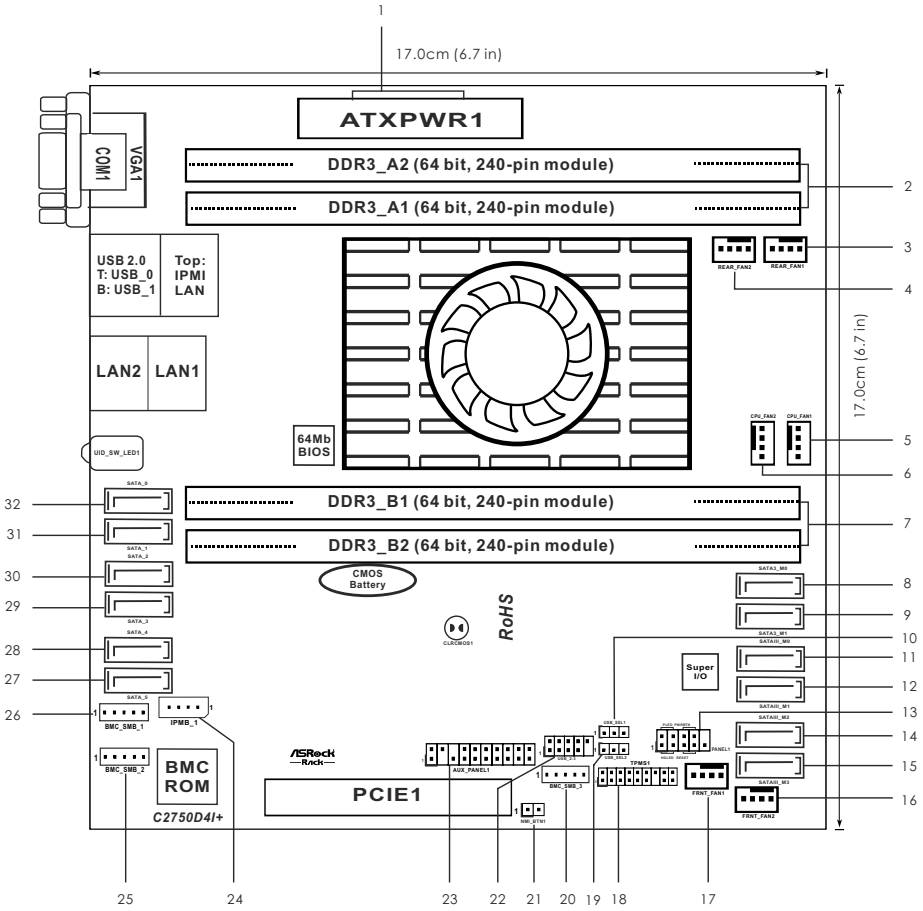
ASRock Instant Flash is a BIOS flash utility embedded in Flash ROM. This convenient BIOS update tool allows you to update system BIOS without entering operating systems first like MS-DOS or Windows®. With this utility, you can press the <F6> key during the POST or the <F2> key to enter into the BIOS setup menu to access ASRock Rack Instant Flash. Just launch this tool and save the new BIOS file to your USB flash drive, floppy disk or hard drive, then you can update your BIOS only in a few clicks without preparing an additional floppy diskette or other complicated flash utility. Please be noted that the USB flash drive or hard drive must use FAT32/16/12 file system.

1.4 Motherboard Layout

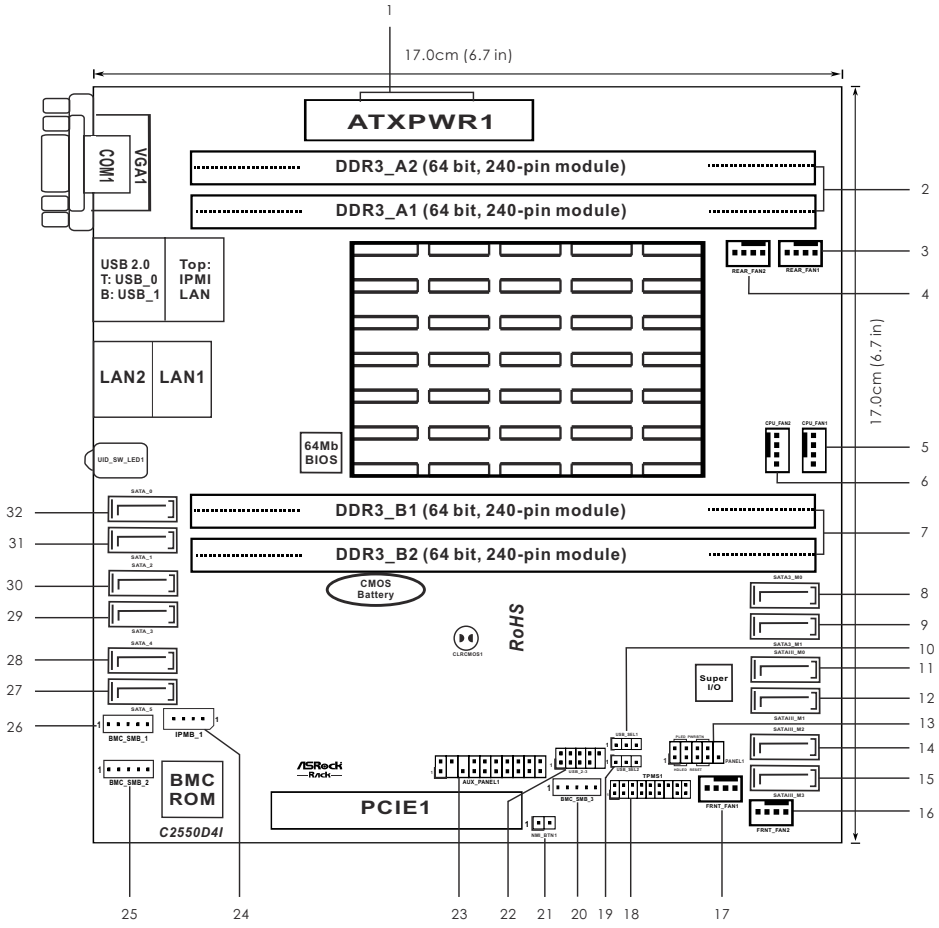
C2750D4I



C2750D4I+


1
17.0cm (6.7 in)
ATXPWR1
VGA1
COM1
DDR3_A2 (64 bit, 240-pin module)
DDR3_A1 (64 bit, 240-pin module)
USB 2.0
T: USB_0
B: USB_1
Top:
IPMI
LAN
LAN2
LAN1
64Mb
BIOS
UID_SW_LED1
REAR_FAN2
REAR_FAN1
CPU_FAN2
CPU_FAN1
17.0cm (6.7 in)
DDR3_B1 (64 bit, 240-pin module)
DDR3_B2 (64 bit, 240-pin module)
CMOS
Battery
CLRCMOS1
RoHS
Super
I/O
BMC_SMB_1
IPMB_1
BMC_SMB_2
BMC
ROM
C2750D4I+
PCIE1
AUX_PANEL1
BMC_SMB_3
TPMS1
FRNT_FAN1
FRNT_FAN2
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

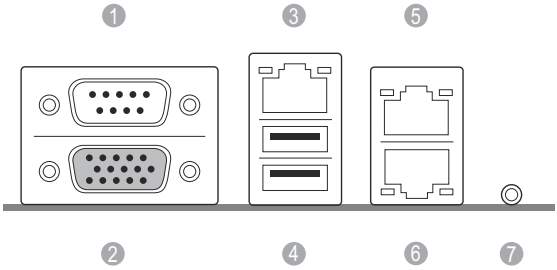
C2550D4I


1
17.0cm (6.7 in)
ATXPWR1
VGA1
COM1
DDR3_A2 (64 bit, 240-pin module)
DDR3_A1 (64 bit, 240-pin module)
USB 2.0
T: USB_0
B: USB_1
Top:
IPMI
LAN
LAN2
LAN1
REAR_FAN2
REAR_FAN1
64Mb
BIOS
CPU_FAN2
CPU_FAN1
17.0cm (6.7 in)
UID_SW_LED1
DDR3_B1 (64 bit, 240-pin module)
DDR3_B2 (64 bit, 240-pin module)
CMOS
Battery
RoHS
Super
I/O
BMC_SMB_1
IPMB_1
BMC_SMB_2
BMC
ROM
C2550D4I
PCIE1
AUX_PANEL1
TPMS1
FRNT_FAN1
FRNT_FAN2
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32

No.	Description
1	ATX Power Connector (ATXPWR1)
2	2 x 240-pin DDR3 DIMM Slots (DDR3_A1, DDR3_A2)
3	Rear Fan Connector (REAR_FAN1)
4	Rear Fan Connector (REAR_FAN2)
5	CPU Fan Connector (CPU_FAN1)
6	CPU Fan Connector (CPU_FAN2)
7	2 x 240-pin DDR3 DIMM Slots (DDR3_B1, DDR3_B2)
8	SATA3 Connector (SATA3_M0, White)
9	SATA3 Connector (SATA3_M1, White)
10	USB Selection Jumper (USB_SEL1)
11	SATA3 Connector (SATAIII_M0, White)
12	SATA3 Connector (SATAIII_M1, White)
13	System Panel Header (PANEL1)
14	SATA3 Connector (SATAIII_M2, White)
15	SATA3 Connector (SATAIII_M3, White)
16	Front Fan Connector (FRNT_FAN2)
17	Front Fan Connector (FRNT_FAN1)
18	TPM Header (TPMS1)
19	USB Selection Jumper (USB_SEL2)
20	BMC SMB Header (BMC_SMB3)
21	Non Maskable Interrupt Button (NMI_BTN1)
22	USB 2.0 Header (USB_2-3)
23	Auxiliary Panel Header (AUX_PANEL1)
24	Intelligent Platform Management Bus header (IPMB_1)
25	BMC SMB Header (BMC_SMB2)
26	BMC SMB Header (BMC_SMB1)
27	SATA2 Connector (SATA_5, Blue)
28	SATA2 Connector (SATA_4, Blue)
29	SATA2 Connector (SATA_3, Blue)
30	SATA2 Connector (SATA_2, Blue)
31	SATA3 Connector (SATA_1, White)
32	SATA3 Connector (SATA_0, White)

1.5 I/O Panel

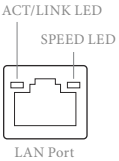
C2550D4I / C2750D4I / C2750D4I+



No.	Description	No.	Description
1	Serial Port (COM1)	5	LAN RJ-45 Port (LAN1)**
2	D-Sub Port (VGA1)	6	LAN RJ-45 Port (LAN2)**
3	Dedicated IPMI LAN Port*	7	UID Switch/LED (UID_SW_LED1)
4	USB 2.0 Ports (USB_0-1)		

LAN Port LED Indications

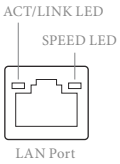
*There are two LED next to the LAN port. Please refer to the table below for the LAN port LED indications.



Dedicated IPMI LAN Port LED Indications

Activity / Link LED		Speed LED	
Status	Description	Status	Description
Off	No Link	Off	10Mbps connection
Blinking	Data Activity	Orange	100Mbps connection
On	100Mbps connection	Green	1Gbps connection

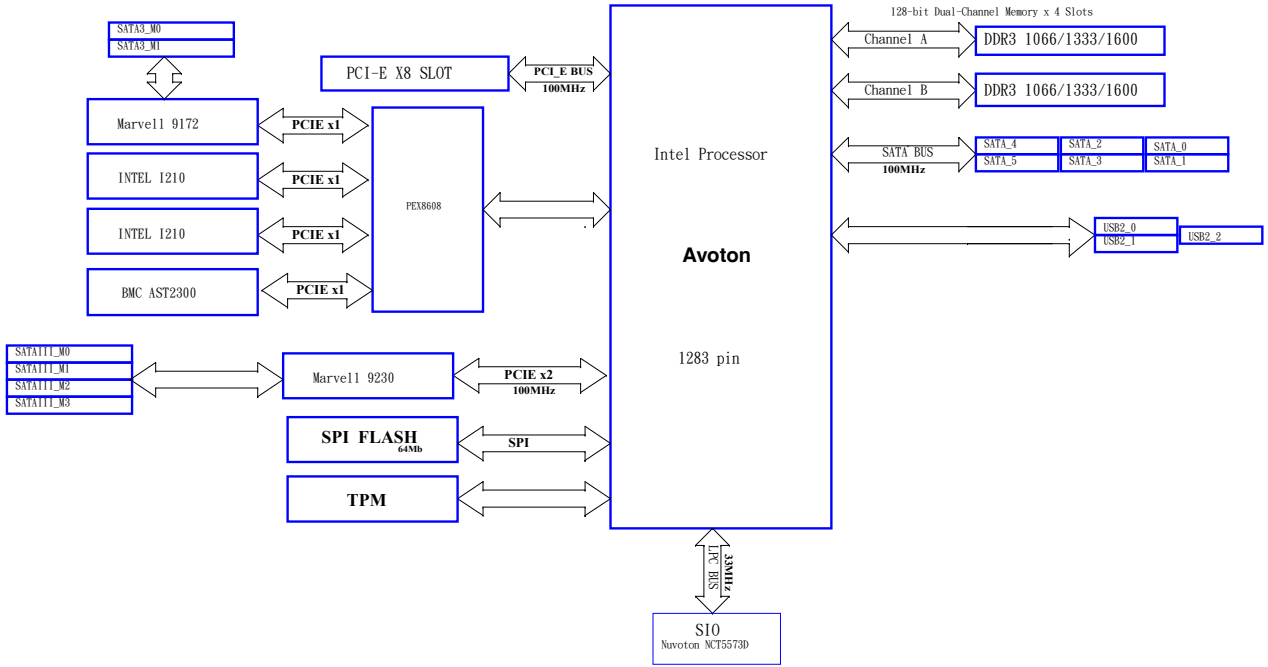
**There are two LEDs on each LAN port. Please refer to the table below for the LAN port LED indications.



LAN Port (LAN1, LAN2) LED Indications

Activity / Link LED		Speed LED	
Status	Description	Status	Description
Off	No Link	Off	10Mbps connection
Blinking	Data Activity	Off	100Mbps connection
On	100Mbps connection	Green	1Gbps connection

1.6 Block Diagram



Chapter 2 Installation

This is a Mini-ITX form factor (6.7'' x 6.7'', 17.0 cm x 17.0 cm) motherboard. Before you install the motherboard, study the configuration of your chassis to ensure that the motherboard fits into it.

Make sure to unplug the power cord before installing or removing the motherboard. Failure to do so may cause physical injuries to you and damages to motherboard components.

2.1 Screw Holes

Place screws into the holes indicated by circles to secure the motherboard to the chassis.

Do not over-tighten the screws! Doing so may damage the motherboard.

2.2 Pre-installation Precautions

Take note of the following precautions before you install motherboard components or change any motherboard settings.

1. Unplug the power cord from the wall socket before touching any components.
2. To avoid damaging the motherboard's components due to static electricity, NEVER place your motherboard directly on the carpet or the like. Also remember to use a grounded wrist strap or touch a safety grounded object before you handle the components.
3. Hold components by the edges and do not touch the ICs.
4. Whenever you uninstall any component, place it on a grounded anti-static pad or in the bag that comes with the component.
5. When placing screws into the screw holes to secure the motherboard to the chassis, please do not over-tighten the screws! Doing so may damage the motherboard.

Before you install or remove any component, ensure that the power is switched off or the power cord is detached from the power supply. Failure to do so may cause severe damage to the motherboard, peripherals, and/or components.

2.3 Installation of Memory Modules (DIMM)

This motherboard provides four 240-pin DDR3 (Double Data Rate 3) DIMM slots, and supports Dual Channel Memory Technology.

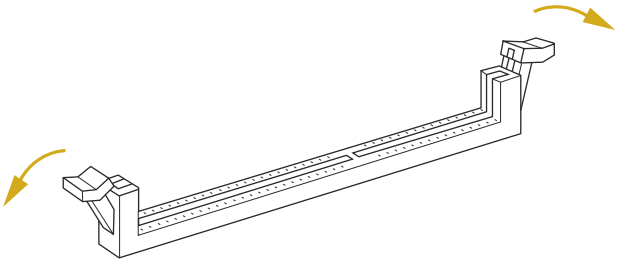
1. *For dual channel configuration, you always need to install identical (the same brand, speed, size and chip-type) DDR3 DIMM pairs.*
2. *It is unable to activate Dual Channel Memory Technology with only one or three memory module installed.*
3. *It is not allowed to install a DDR or DDR2 memory module into a DDR3 slot; otherwise, this motherboard and DIMM may be damaged.*
4. *Please install the memory module on DDR3_A1 for the first priority.*

Dual Channel Memory Configuration

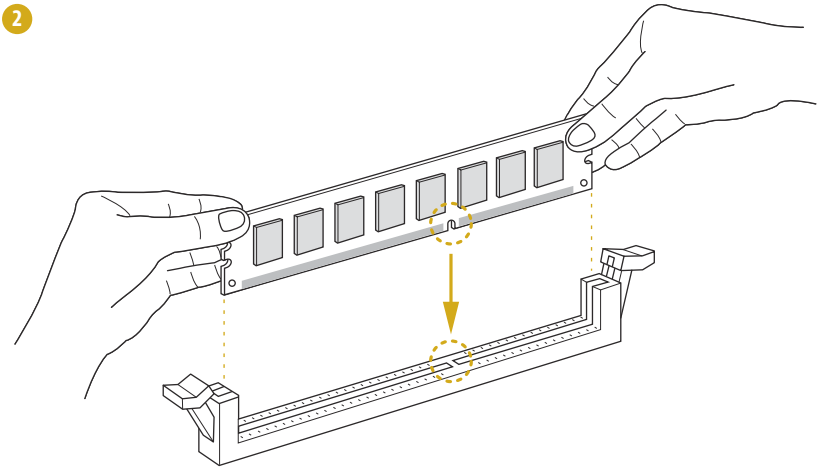
Priority	DDR3_A1 (Blue)	DDR3_A2 (White)	DDR3_B1 (Blue)	DDR3_B2 (White)
1	Populated		Populated	
2	Populated	Populated	Populated	Populated

The DIMM only fits in one correct orientation. It will cause permanent damage to the motherboard and the DIMM if you force the DIMM into the slot at incorrect orientation.

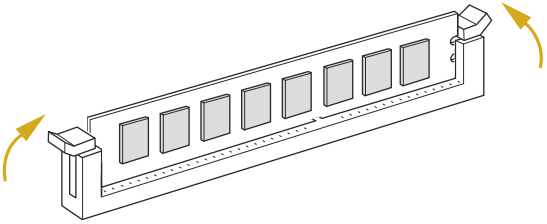
1



2



3



2.4 Expansion Slots (PCI Express Slots)

There is 1 PCI Express slots on this motherboard.

PCIE slot:

PCIE1 (PCIE 2.0 x8 slot) is used for PCI Express x8 lane width graphics cards.

Installing an expansion card

Step 1. Before installing an expansion card, please make sure that the power supply is switched off or the power cord is unplugged. Please read the documentation of the expansion card and make necessary hardware settings for the card before you start the installation.

Step 2. Remove the system unit cover (if your motherboard is already installed in a chassis).

Step 3. Remove the bracket facing the slot that you intend to use. Keep the screws for later use.

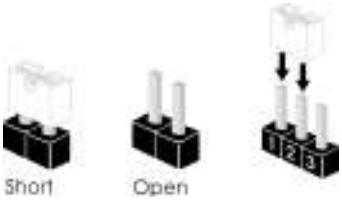
Step 4. Align the card connector with the slot and press firmly until the card is completely seated on the slot.

Step 5. Fasten the card to the chassis with screws.

Step 6. Replace the system cover.

2.5 Jumper Setup

The illustration shows how jumpers are setup. When the jumper cap is placed on the pins, the jumper is “Short”. If no jumper cap is placed on the pins, the jumper is “Open”. The illustration shows a 3-pin jumper whose pin1 and pin2 are “Short” when a jumper cap is placed on these 2 pins.



USB Selection Jumper (3-pin USB_SEL1) (No. 10) (3-pin USB_SEL2) (No. 19)	1_2 1_2	2_3 2_3
	Support: Rear USB 2.0 ports x 2 Front USB header x 1 (Default)	Support: Rear USB 2.0 ports x 1 Front USB header x 2

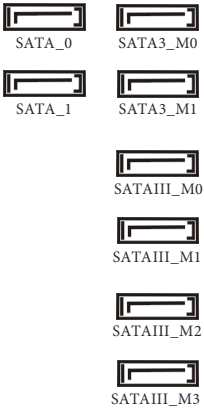
English

2.6 Onboard Headers and Connectors

Onboard headers and connectors are NOT jumpers. Do NOT place jumper caps over these headers and connectors. Placing jumper caps over the headers and connectors will cause permanent damage to the motherboard.

**You can see p.6 or p.7 for motherboard layout.*

Serial ATA3 Connectors
(SATA_0: No. 32)
(SATA_1: No. 31)
(SATA3_M0: No. 8)
(SATA3_M1: No. 9)
(SATAIII_M0: No. 11)
(SATAIII_M1: No. 12)
(SATAIII_M2: No. 14)
(SATAIII_M3: No. 15)

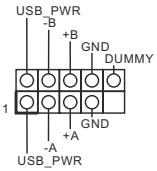


These eight Serial ATA3 (SATA3) connectors support SATA data cables for internal storage devices. The current SATA3 interface allows up to 6.0 Gb/s data transfer rate.

Serial ATA2 Connectors
(SATA_2: No. 30)
(SATA_3: No. 29)
(SATA_4: No. 28)
(SATA_5: No. 27)

These four Serial ATA2 (SATA2) connectors support SATA data cables for internal storage devices. The current SATA2 interface allows up to 3.0 Gb/s data transfer rate.

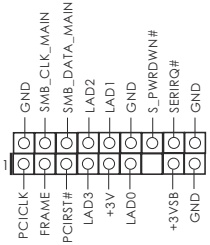
USB 2.0 Header
(9-pin USB_2-3)
(No. 22)



Besides two default USB 2.0 ports on the I/O panel, there is one USB 2.0 header on this motherboard. Each USB 2.0 header can support two USB 2.0 ports.

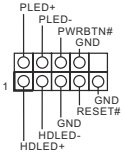
English

TPM Header
(17-pin TPMS1)
(No. 18)



This connector supports Trusted Platform Module (TPM) system, which can securely store keys, digital certificates, passwords, and data. A TPM system also helps enhance network security, protects digital identities, and ensures platform integrity.

System Panel Header
(9-pin PANEL1)
(No. 13)



This header accommodates several system front panel functions.

PWRBTN (Power Switch):
Connect to the power switch on the chassis front panel. You may configure the way to turn off your system using the power switch.

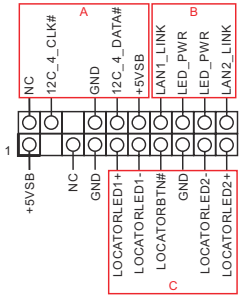
RESET (Reset Switch):
Connect to the reset switch on the chassis front panel. Press the reset switch to restart the computer if the computer freezes and fails to perform a normal restart.

PLED (System Power LED):
Connect to the power status indicator on the chassis front panel. The LED is on when the system is operating. The LED is off when the system is in powered off (S5).

HDLED (Hard Drive Activity LED):
Connect to the hard drive activity LED on the chassis front panel. The LED is on when the hard drive is reading or writing data.

The front panel design may differ by chassis. A front panel module mainly consists of power switch, reset switch, power LED, hard drive activity LED, speaker and etc. When connecting your chassis front panel module to this header, make sure the wire assignments and the pin assignments are matched correctly.

Auxiliary Panel Header
(18-pin AUX_PANEL1)
(No. 14)



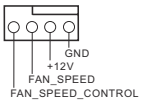
This header supports multiple functions on the front panel, including front panel SMB, internet status indicator.

A. Front panel SMBus connecting pin (6-1 pin FPSMB)
This header allows you to connect SMBus (System Management Bus) equipment. It can be used for communication between peripheral equipment in the system, which has slower transmission rates, and power management equipment.

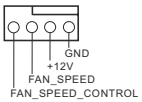
B. Internet status indicator (2-pin LAN1_LED, LAN2_LED)
These two 2-pin headers allow you to use the Gigabit internet indicator cable to connect to the LAN status indicator. When this indicator flickers, it means that the internet is properly connected.

C. Locator LED (6-pin LOCATOR)
This header is for the locator switch and LED on the front panel.

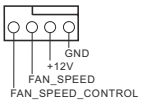
Front and Rear
Fan Connectors
(4-pin FRNT_FAN1)
(No. 17)



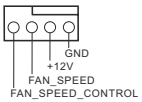
(4-pin FRNT_FAN2)
(No. 16)



(4-pin REAR_FAN1)
No. 3)



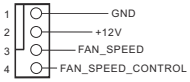
(4-pin REAR_FAN2)
(No. 4)



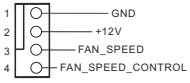
Please connect the fan cables to the fan connectors and match the black wire to the ground pin. All fans supports Fan Control.

English

CPU Fan Connectors
(4-pin CPU_FAN1)
(No. 5)



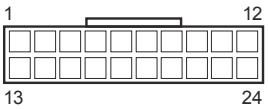
(4-pin CPU_FAN2)
(No. 6)



Please connect the CPU fan cable to the connector and match the black wire to the ground pin.
Though this motherboard provides a 4-Pin CPU fan (Quiet Fan) connector, 3-Pin CPU fans can still work successfully even without the fan speed control function. If you plan to connect a 3-Pin CPU fan to the CPU fan connector on this motherboard, please connect it to Pin 1-3.

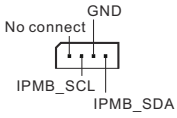
**For more details, please refer to the Cooler QVL list on the ASRock Rack website.*

ATX Power Connector
(24-pin ATXPWR1)
No. 1)



Please connect an ATX power supply to this connector.
Though this motherboard provides a 24-pin ATX power connector, it can still work if you adopt a traditional 20-pin ATX power supply. To use a 20-pin ATX power supply, please plug your power supply along Pin 1 and Pin 13.

Intelligent Platform Management Bus header
(4-pin IPMB_1)
(No. 24)



This 4-pin connector is used to provide a cabled baseboard or front panel connection for value added features and 3rd-party add-in cards, such as Emergency Management cards, that provide management features using the IPMB.

English

Non Maskable Interrupt Button Header (2-pin NMI_BTN1) (see p.13 or 15, No. 21)		Please connect a NMI device to this header.
BMC SMB Headers (5-pin BMC_SMB_1) (No. 26)		This header is used for the SM BUS devices.
(5-pin BMC_SMB_2) (No. 25)		
(5-pin BMC_SMB_3) (No. 20)		

2.7 Unit Identification purpose LED/Switch

With the UID button, You are able to locate the server you're working on from behind a rack of servers.

Unit Identification purpose LED/Switch (UID_SW_LED1)		When the UID button on the front or rear panel is pressed, the front/rear UID blue LED indicator will be turned on. Press the UID button again to turn off the indicator.

2.8 Driver Installation Guide

To install the drivers to your system, please insert the support CD to your optical drive first. Then, the drivers compatible to your system can be auto-detected and listed on the support CD driver page. Please follow the order from top to bottom to install those required drivers. Therefore, the drivers you install can work properly.

Chapter 3 UEFI Setup Utility

3.1 Introduction

This section explains how to use the UEFI SETUP UTILITY to configure your system. The UEFI chip on the motherboard stores the UEFI SETUP UTILITY. You may run the UEFI SETUP UTILITY when you start up the computer. Please press <F2> or <Del> during the Power-On-Self-Test (POST) to enter the UEFI SETUP UTILITY; otherwise, POST will continue with its test routines.

If you wish to enter the UEFI SETUP UTILITY after POST, restart the system by pressing <Ctrl> + <Alt> + <Delete>, or by pressing the reset button on the system chassis. You may also restart by turning the system off and then back on.

Because the UEFI software is constantly being updated, the following UEFI setup screens and descriptions are for reference purpose only, and they may not exactly match what you see on your screen.

3.1.1 UEFI Menu Bar

The top of the screen has a menu bar with the following selections:

Item	Description
Main	To set up the system time/date information
Advanced	To set up the advanced UEFI features
H/W Monitor	To display current hardware status
IntelRCSetup	For Intel CPU and chipset settings
Server Mgmt	To manage the server
Event Logs	For event log configuration
Security	To set up the security features
Boot	To set up the default system device to locate and load the Operating System
Exit	To exit the current screen or the UEFI SETUP UTILITY

Use <← > key or <→ > key to choose among the selections on the menu bar, and then press <Enter> to get into the sub screen.

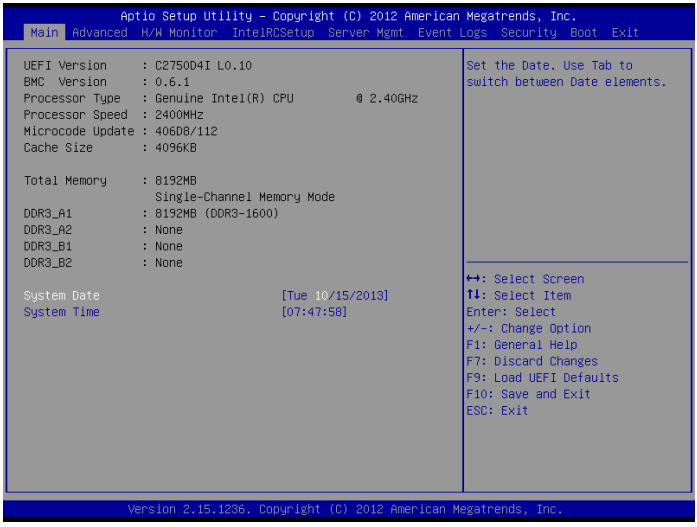
3.1.2 Navigation Keys

Please check the following table for the function description of each navigation key.

Navigation Key(s)	Function Description
← / →	Moves cursor left or right to select Screens
↑ / ↓	Moves cursor up or down to select items
+ / -	To change option for the selected items
<Tab>	Switch to next function
<Enter>	To bring up the selected screen
<PGUP>	Go to the previous page
<PGDN>	Go to the next page
<HOME>	Go to the top of the screen
<END>	Go to the bottom of the screen
<F1>	To display the General Help Screen
<F7>	Discard changes and exit the UEFI SETUP UTILITY
<F9>	Load optimal default values for all the settings
<F10>	Save changes and exit the UEFI SETUP UTILITY
<F12>	Print screen
<ESC>	Jump to the Exit Screen or exit the current screen

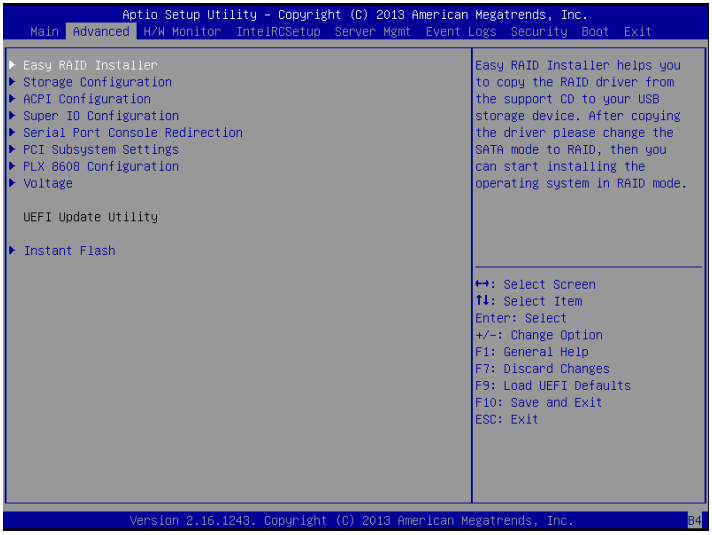
3.2 Main Screen

Once you enter the UEFI SETUP UTILITY, the Main screen will appear and display the system overview. The Main screen provides system overview information and allows you to set the system time and date.


Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.
Main Advanced H/W Monitor IntelRCSetup Server Mgmt Event Logs Security Boot Exit
UEFI Version : C2750D4I L0.10
BMC Version : 0.6.1
Processor Type : Genuine Intel(R) CPU @ 2.40GHz
Processor Speed : 2400MHz
Microcode Update : 406D8/112
Cache Size : 4096KB
Total Memory : 8192MB
Single-Channel Memory Mode
DDR3_A1 : 8192MB (DDR3-1600)
DDR3_A2 : None
DDR3_B1 : None
DDR3_B2 : None
System Date [Tue 10/15/2013]
System Time [07:47:58]
Set the Date. Use Tab to switch between Date elements.
↔: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Option
F1: General Help
F7: Discard Changes
F9: Load UEFI Defaults
F10: Save and Exit
ESC: Exit
Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.

3.3 Advanced Screen

In this section, you may set the configurations for the following items: Easy RAID Installer, Storage Configuration, ACPI Configuration, Super IO Configuration, Serial Port Console Redirection, PCI Subsystem Settings, PLX 8608 Configuration, Voltage and Instant Flash.

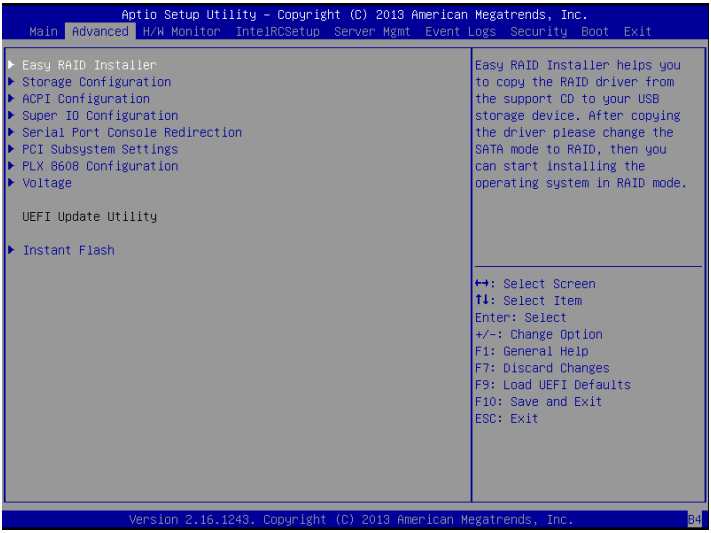

Aptio Setup Utility – Copyright (C) 2013 American Megatrends, Inc.
Main Advanced H/W Monitor IntelRCSetup Server Mgmt Event Logs Security Boot Exit
Easy RAID Installer
Storage Configuration
ACPI Configuration
Super IO Configuration
Serial Port Console Redirection
PCI Subsystem Settings
PLX 8608 Configuration
Voltage
UEFI Update Utility
Instant Flash
Easy RAID Installer helps you to copy the RAID driver from the support CD to your USB storage device. After copying the driver please change the SATA mode to RAID, then you can start installing the operating system in RAID mode.
↔: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Option
F1: General Help
F7: Discard Changes
F9: Load UEFI Defaults
F10: Save and Exit
ESC: Exit
Version 2.16.1243. Copyright (C) 2013 American Megatrends, Inc.
84

Setting wrong values in this section may cause the system to malfunction.

Instant Flash

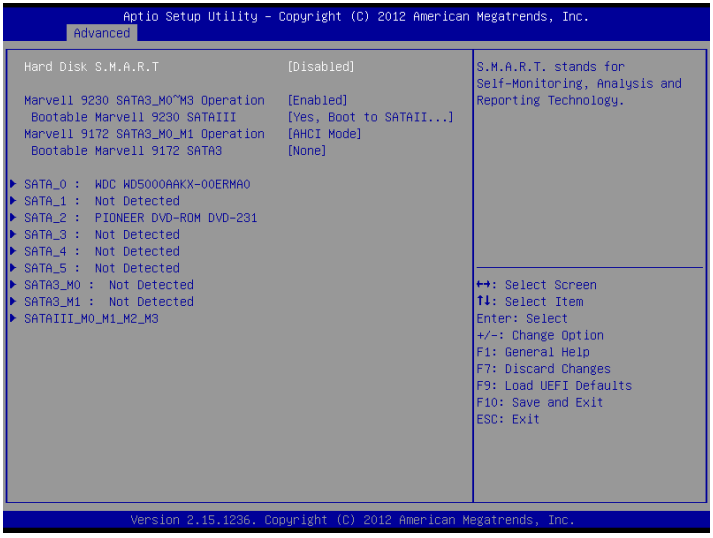
Instant Flash is a UEFI flash utility embedded in Flash ROM. This convenient UEFI update tool allows you to update system UEFI without entering operating systems first like MS-DOS or Windows®. Just save the new UEFI file to your USB flash drive, floppy disk or hard drive and launch this tool, then you can update your UEFI only in a few clicks without preparing an additional floppy diskette or other complicated flash utility. Please be noted that the USB flash drive or hard drive must use FAT32/16/12 file system. If you execute Instant Flash utility, the utility will show the UEFI files and their respective information. Select the proper UEFI file to update your UEFI, and reboot your system after the UEFI update process is completed.

3.3.1 Easy Raid Installer


Aptio Setup Utility – Copyright (C) 2013 American Megatrends, Inc.
Main Advanced H/W Monitor IntelRCSetup Server Mgmt Event Logs Security Boot Exit
Easy RAID Installer
Storage Configuration
ACPI Configuration
Super IO Configuration
Serial Port Console Redirection
PCI Subsystem Settings
PLX 8608 Configuration
Voltage
UEFI Update Utility
Instant Flash
Easy RAID Installer helps you to copy the RAID driver from the support CD to your USB storage device. After copying the driver please change the SATA mode to RAID, then you can start installing the operating system in RAID mode.
↔: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Option
F1: General Help
F7: Discard Changes
F9: Load UEFI Defaults
F10: Save and Exit
ESC: Exit
Version 2.16.1243. Copyright (C) 2013 American Megatrends, Inc.

Easy RAID Installer can help you to copy the RAID driver from a support CD to your USB storage device. After copying the RAID driver to your USB storage device, please change "SATA Mode" to "RAID", then you can start installing the OS in RAID mode.

3.3.2 Storage Configuration


Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.
Advanced
Hard Disk S.M.A.R.T [Disabled]
Marvell 9230 SATA3_M0~M3 Operation [Enabled]
Bootable Marvell 9230 SATAIII [Yes, Boot to SATAII...]
Marvell 9172 SATA3_M0_M1 Operation [AHCI Mode]
Bootable Marvell 9172 SATA3 [None]
SATA_0 : WDC WD5000AAKX-00ERMA0
SATA_1 : Not Detected
SATA_2 : PIONEER DVD-ROM DVD-231
SATA_3 : Not Detected
SATA_4 : Not Detected
SATA_5 : Not Detected
SATA3_M0 : Not Detected
SATA3_M1 : Not Detected
SATAIII_M0_M1_M2_M3
S.M.A.R.T. stands for Self-Monitoring, Analysis and Reporting Technology.
↔: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Option
F1: General Help
F7: Discard Changes
F9: Load UEFI Defaults
F10: Save and Exit
ESC: Exit
Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.

Hard Disk S.M.A.R.T.

Use this item to enable or disable the S.M.A.R.T. (Self-Monitoring, Analysis, and Reporting Technology) feature.

Marvell 9230 SATA3_M0~M3 Operation

This item is for Marvell 9230 SATA3_M0~M3 ports. Use this to select Marvell SATA3 mode. Configuration options: [Enabled] and [Disabled]. The default value is [Enabled].

Bootable Marvell 9230 SATAIII

Use this to enable or disable Marvell SATA Boot ROM.

Marvell 9172 SATA3_M0_M1 Operation

This item is for Marvell 9172 SATA3_M0 and M1 ports. Use this to select Marvell SATA3 mode. Configuration options: [Disabled], [IDE Mode], [AHCI Mode] and [RAID Mode]. The default value is [AHCI Mode].

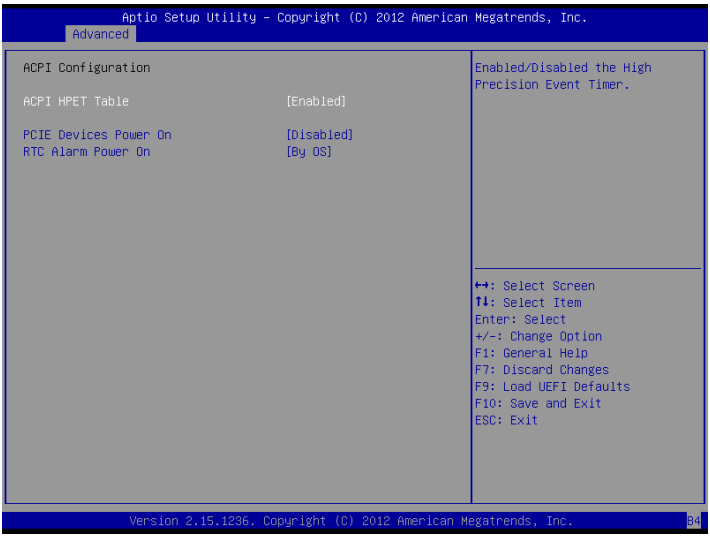
Bootable Marvell 9172 SATA3

Use this to enable or disable Marvell SATA Boot ROM.

We recommend to use Intel® SATA ports (SATA_0 to SATA_5 ports) for your bootable devices. This will minimum your boot time and get the best performance. But if you still want to boot from Marvell SATA3 controller, you can still enable this in UEFI.

English

3.3.3 ACPI Configuration


Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.
Advanced
ACPI Configuration
ACPI HPET Table [Enabled]
PCIE Devices Power On [Disabled]
RTC Alarm Power On [By OS]
Enabled/Disabled the High Precision Event Timer.
↔: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Option
F1: General Help
F7: Discard Changes
F9: Load UEFI Defaults
F10: Save and Exit
ESC: Exit
Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.

ACPI HPET Table

Enable the High Precision Event Timer for better performance.

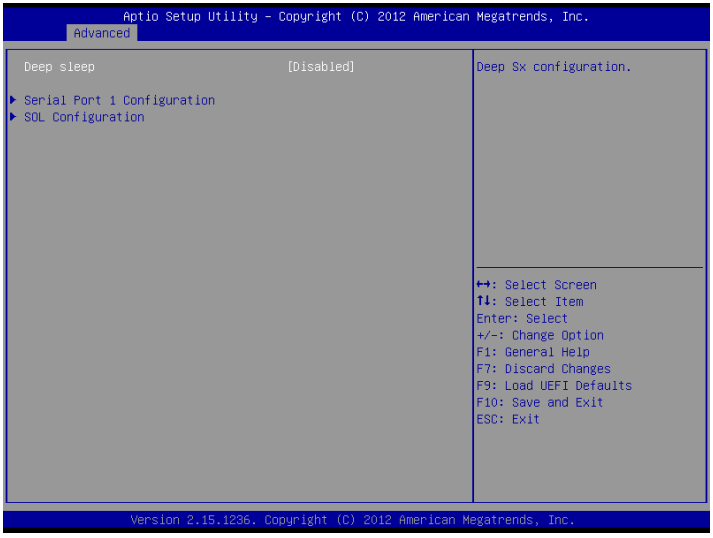
PCIE Devices Power On

Use this item to enable or disable PCIE devices to turn on the system from the power-soft-off mode.

RTC Alarm Power On

Use this item to enable or disable RTC (Real Time Clock) to power on the system.

3.3.4 Super IO Configuration



Deep Sleep

Use this to configure Deep Sleep. The default value is [Disabled].

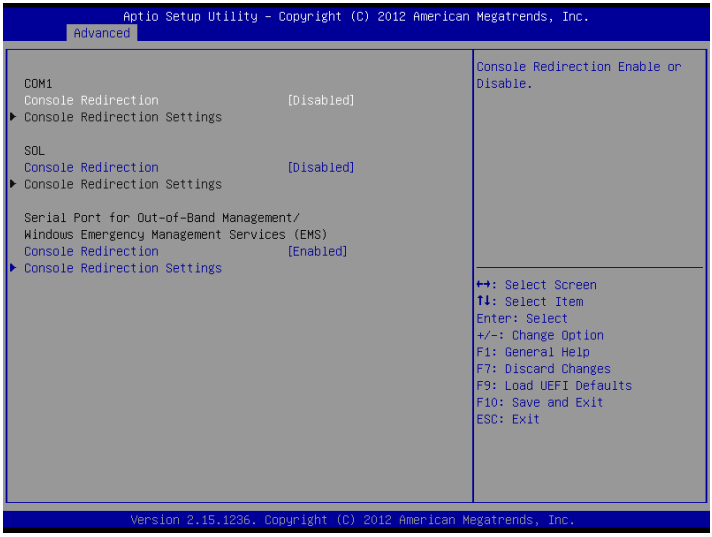
Serial Port 1 Configuration

Use this item to configure the onboard serial port 1.

SOL Configuration

Use this item to configure the onboard serial port 2.

3.3.5 Serial Port Console Redirection



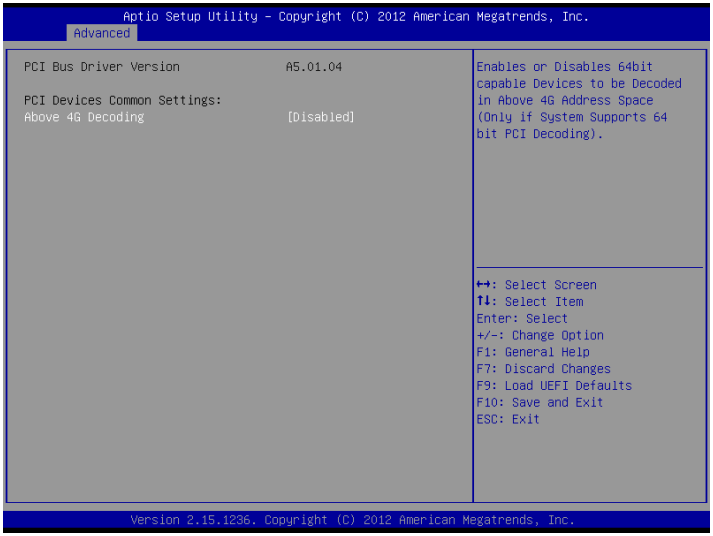
Console Redirection

Use this option to enable or disable Console Redirection.

Console Redirection Settings

Use this option to configure Console Redirection Settings,

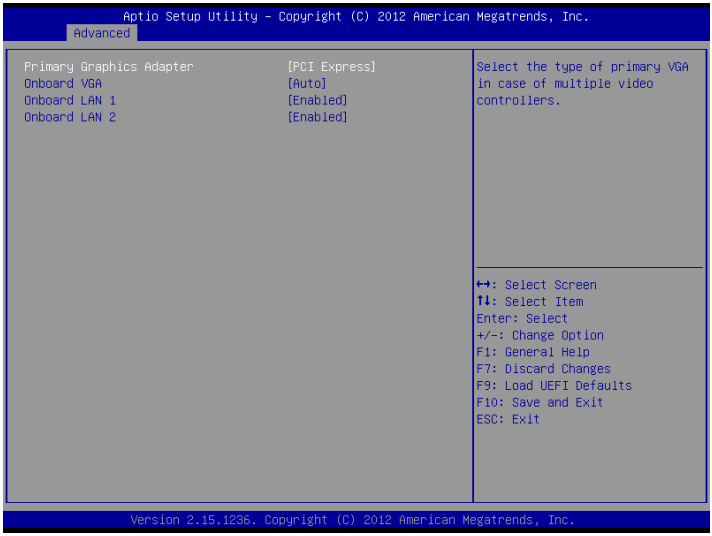
3.3.6 PCI Subsystem Settings


Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.
Advanced
PCI Bus Driver Version
A5.01.04
PCI Devices Common Settings:
Above 4G Decoding
[Disabled]
Enables or Disables 64bit capable Devices to be Decoded in Above 4G Address Space (Only if System Supports 64 bit PCI Decoding).
↔: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Option
F1: General Help
F7: Discard Changes
F9: Load UEFI Defaults
F10: Save and Exit
ESC: Exit
Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.

Above 4G Decoding

Use this option to enable or disable 64bit capable devices to be decoded in above 4G address space (only if system supports 64bit PCI decoding).

3.3.7 PLX 8608 Configuration


Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.
Advanced
Primary Graphics Adapter [PCI Express]
Onboard VGA [Auto]
Onboard LAN 1 [Enabled]
Onboard LAN 2 [Enabled]
Select the type of primary VGA in case of multiple video controllers.
↔: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Option
F1: General Help
F7: Discard Changes
F9: Load UEFI Defaults
F10: Save and Exit
ESC: Exit
Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.

Primary Graphics Adapter

This allows you to select [Onboard] or [PCI Express] as the boot graphic adapter priority. The default value is [PCI Express].

Onboard VGA

This allows you to enable or disable the Onboard VGA feature.

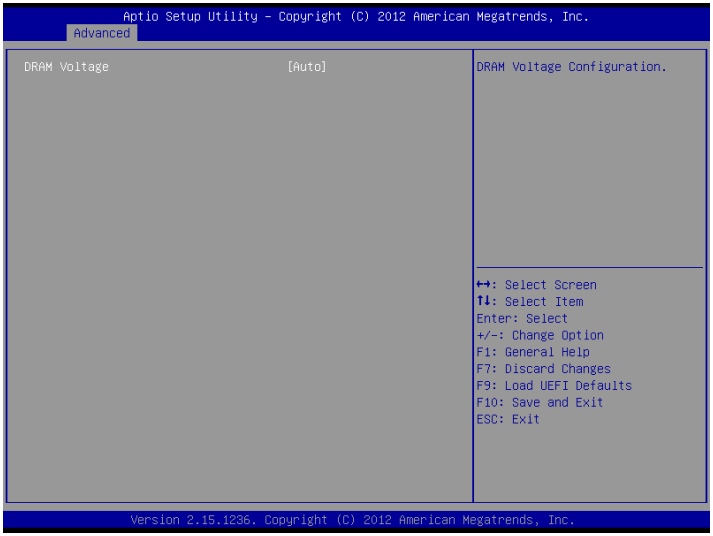
Onboard LAN1

This allows you to enable or disable the Onboard LAN1 feature.

Onboard LAN2

This allows you to enable or disable the Onboard LAN2 feature.

3.3.8 Voltage



DRAM Voltage

Use this to select DRAM Voltage. The default value is [Auto].

3.4 H/W Monitor Screen (Hardware Health Event Monitoring)

In this section, it allows you to monitor the status of the hardware on your system, including the parameters of the CPU temperature, motherboard temperature and the critical voltage.

CPU_FAN1 Setting

This allows you to set the speed of CPU fan 1. The default value is [Smart Fan].

CPU_FAN2 Setting

This allows you to set the speed of CPU fan 2. The default value is [Smart Fan].

REAR_FAN1 Setting

This allows you to set the speed of REAR Fan 1. The default valu is [Smart Fan].

REAR_FAN2 Setting

This allows you to set the speed of REAR Fan 2. The default value is [Smart Fan].

FRNT_FAN1 Setting

This allows you to set the speed of FRNT Fan 1. The default value is [Smart Fan].

FRNT_FAN2 Setting

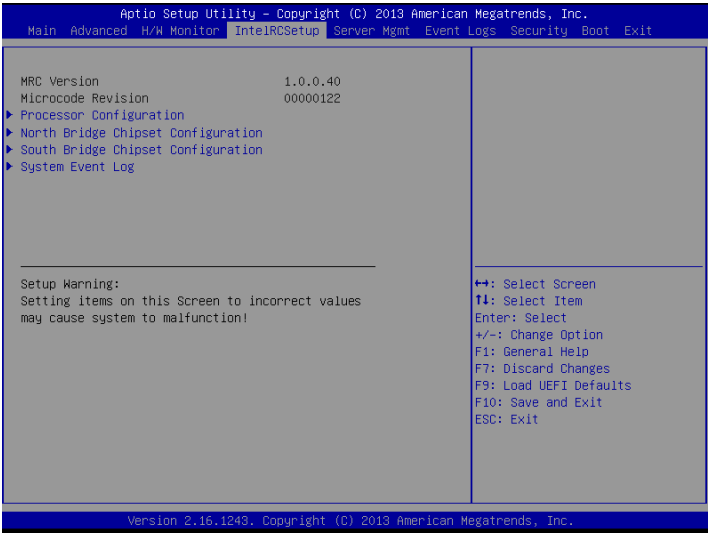
This allows you to set the speed of FRNT Fan 2. The default value is [Smart Fan].

Watch Dog Timer

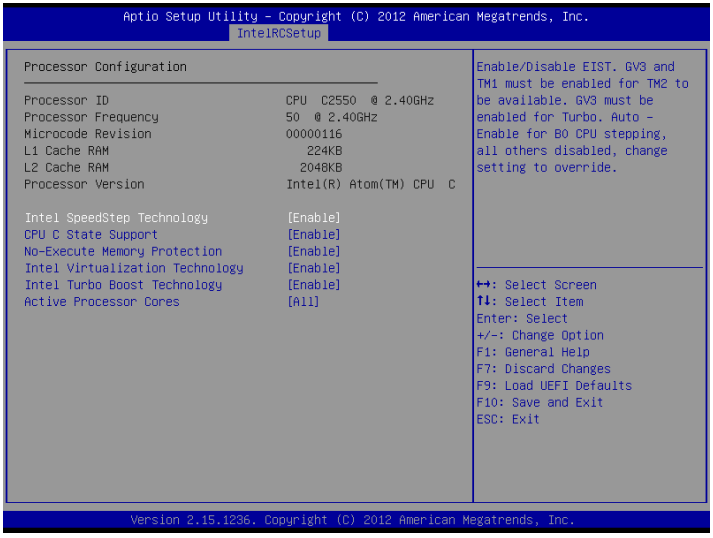
This allows you to enable or disable the Watch Dog Timer. The default value is [Disabled].

3.5 IntelRCSetup

In this section, you may set the configurations for the following items: Processor Configuration, North Bridge Chipset Configuration, South Bridge Chipset Configuration and System Event Log.


Aptio Setup Utility – Copyright (C) 2013 American Megatrends, Inc.
Main Advanced H/W Monitor IntelRCSetup Server Mgmt Event Logs Security Boot Exit
MRC Version 1.0.0.40
Microcode Revision 00000122
Processor Configuration
North Bridge Chipset Configuration
South Bridge Chipset Configuration
System Event Log
Setup Warning:
Setting items on this Screen to incorrect values may cause system to malfunction!
↔: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Option
F1: General Help
F7: Discard Changes
F9: Load UEFI Defaults
F10: Save and Exit
ESC: Exit
Version 2.16.1243. Copyright (C) 2013 American Megatrends, Inc.

3.5.1 Processor Configuration


Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.
IntelRCSetup
Processor Configuration
Processor ID CPU C2550 @ 2.40GHz
Processor Frequency 50 @ 2.40GHz
Microcode Revision 00000116
L1 Cache RAM 224KB
L2 Cache RAM 2048KB
Processor Version Intel(R) Atom(TM) CPU C
Intel SpeedStep Technology [Enable]
CPU C State Support [Enable]
No-Execute Memory Protection [Enable]
Intel Virtualization Technology [Enable]
Intel Turbo Boost Technology [Enable]
Active Processor Cores [All]
Enable/Disable EIST. GV3 and TM1 must be enabled for TM2 to be available. GV3 must be enabled for Turbo. Auto – Enable for B0 CPU stepping, all others disabled, change setting to override.
↔: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Option
F1: General Help
F7: Discard Changes
F9: Load UEFI Defaults
F10: Save and Exit
ESC: Exit
Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.

Intel SpeedStep Technology

Intel SpeedStep technology is Intel's new power saving technology. Processors can switch between multiple frequencies and voltage points to enable power saving. The default value is [Enabled]. Configuration options: [Enabled] and [Disabled]. This item will be hidden if the current CPU does not support Intel SpeedStep technology.

Please note that enabling this function may reduce CPU voltage and lead to system stability or compatibility issues with some power supplies. Please set this item to [Disabled] if above issues occur.

CPU C State

Use this to enable or disable the support of CPU C State.

No-Execute Memory Protection

Processors with No-Execution Memory Protection Technology may prevent certain classes of malicious buffer overflow attacks.

Intel Virtualization Technology

When this option is set to [Enabled], a VMM (Virtual Machine Architecture) can utilize the additional hardware capabilities provided by Vanderpool Technology. This option will be hidden if the installed CPU does not support Intel Virtualization Technology.

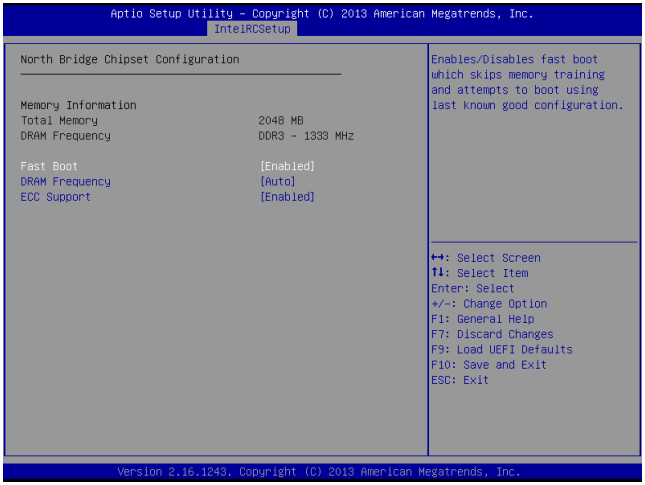
Intel Turbo Boost Technology

Use this item to enable or disable Intel Turbo Boost Mode Technology. Turbo Boost Mode allows processor cores to run faster than marked frequency in specific conditions. The default value is [Enabled].

Active Processor Cores

Use this item to select the number of cores to enable in each processor package. The default value is [All].

3.5.2 North Bridge Configuration


Aptio Setup Utility – Copyright (C) 2013 American Megatrends, Inc.
IntelRCSetup
North Bridge Chipset Configuration
Memory Information
Total Memory 2048 MB
DRAM Frequency DDR3 – 1333 MHz
Fast Boot [Enabled]
DRAM Frequency [Auto]
ECC Support [Enabled]
Enables/Disables fast boot which skips memory training and attempts to boot using last known good configuration.
↔: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Option
F1: General Help
F7: Discard Changes
F9: Load UEFI Defaults
F10: Save and Exit
ESC: Exit
Version 2.16.1243. Copyright (C) 2013 American Megatrends, Inc.

Fast Boot

Use this item to enable to disable fast boot which skips memory training and attempts to boot using last known good configuration.

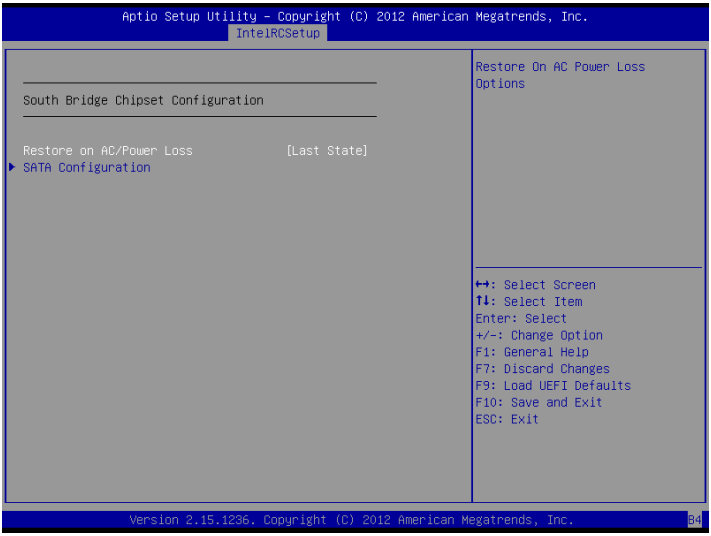
DRAM Frequency

If [Auto] is selected, the motherboard will detect the memory module(s) inserted and assign the appropriate frequency automatically.

ECC Support

Use this item to enable or disable DDR ECC Support.

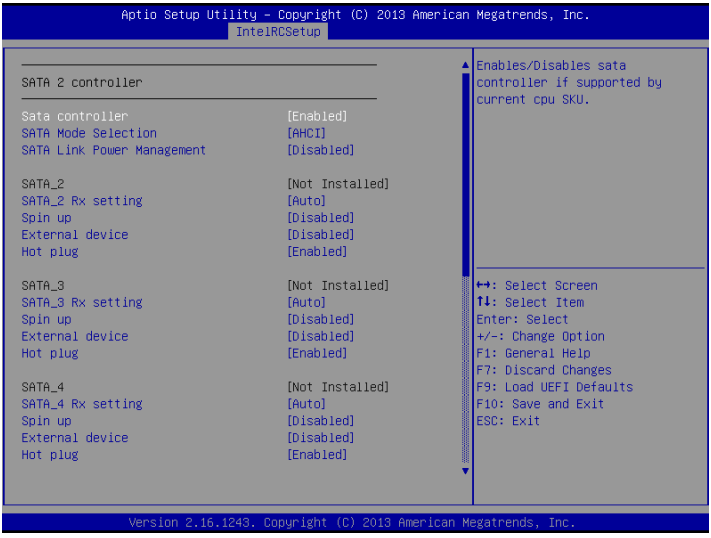
3.5.3 South Bridge Chipset Configuration


Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.
IntelRCSetup
South Bridge Chipset Configuration
Restore on AC/Power Loss [Last State]
SATA Configuration
Restore On AC Power Loss Options
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Option
F1: General Help
F7: Discard Changes
F9: Load UEFI Defaults
F10: Save and Exit
ESC: Exit
Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.

Restore on AC/Power Loss

Select the power state after a power failure. If [Power Off] is selected, the power will remain off when the power recovers. If [Power On] is selected, the system will start to boot up when the power recovers.

SATA Configuration



SATA 2 Controller / SATA 3 Controller

Use this item to enable or disable SATA Controller.

SATA Mode Selection

Use this to select SATA mode. Configuration options: [Disabled], [IDE Mode], [AHCI Mode] and [RAID Mode]. The default value is [AHCI Mode].

AHCI (Advanced Host Controller Interface) supports NCQ and other new features that will improve SATA disk performance but IDE mode does not have these advantages.

SATA Link Power Management

Use this item to configure SATA Aggressive Link Power Management.

SATA_x

Depending on how many SATA ports you have, you will see SATA_x (x means number) listed on the screen, with its status indicated as SATA device [(Model Name)] or [Not Detected].

SATA_x Rx Setting

Adjust SATA DTLE DATA Values (0-15).

Spin Up

If enabled for any of ports, Staggered Spin Up will be performed and only the drives which have this option enabled will spin up at boot. Otherwise all drives spin up at boot.

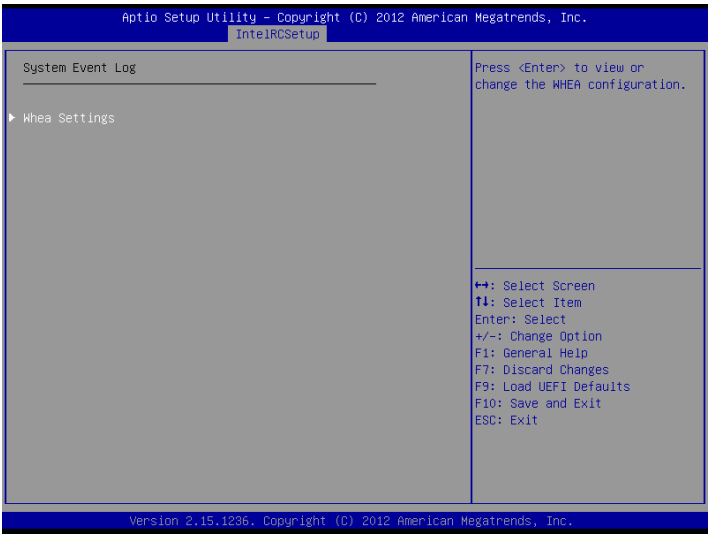
External Device

Use this item to enable SATA safe removal notifications. Please note that the SATA device will be downgraded to SATA2.

Hot Plug

Designates this port as Hot Plugglable.

3.5.4 System Event Log



Whea Settings

Use this option to configure Windows Hardware Error Architecture.

3.6 Server Management

Wait For BMC

Wait For BMC response for specified time out. In PILOTII, BMC starts at the same time when BIOS starts during AC power ON. It takes around 30 seconds to initialize Host to BMC interfaces.

System Event Log

Enter to configure System Event Logging features during boot.

BMC Network Configuration

Press <Enter> to configure BMC Network parameters.

Configuration Address Source

Select to configure BMC network parameters statically or dynamically(by BIOS or BMC). Configuration options: [Unspecified], [Static], and [Dynamic].

Unspecified: BMC network parameters are configured by BMC itself.
Static: Manually enter the IP Address, Subnet Mask and Gateway Address in the BIOS for BMC LAN channel configuration.
Dynamic: IP address, Subnet Mask and Gateway Address are automatically assigned by the network's DHCP server.

To configure BMC network parameters using the BIOS setup, select either [Static] or [Dynamic] option.
To configure BMC network parameters using the BMC web interface, select [Unspecified] option.

When [Dynamic] or [Static] is selected, do NOT modify the BMC network settings on the IPMI web page.

BMC Mac Backup Tool

Use this to restore BMC Mac from the backup.

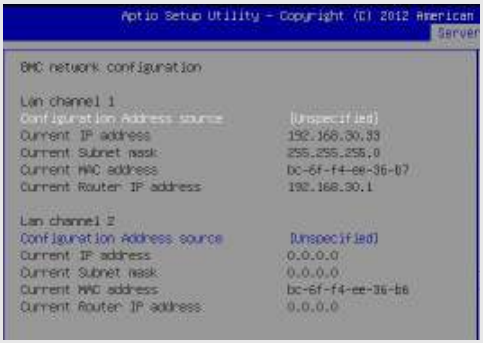
The default login information for the IPMI web interface is:
Username: admin
Password: admin

Please refer to the table below for the LAN interface mapping to check the MAC address through either BIOS or Web interface.

BMC LAN Interface Mapping Table		
I/O Panel	**BIOS Menu**	**IPMI Web Page**
LAN1 Port (NCSI)	Lan Channel 1	eth0
IPMI Port	Lan Channel 2	eth1

BIOS Menu

Server Mgmt tab



(Example image only)

IPMI Web Page

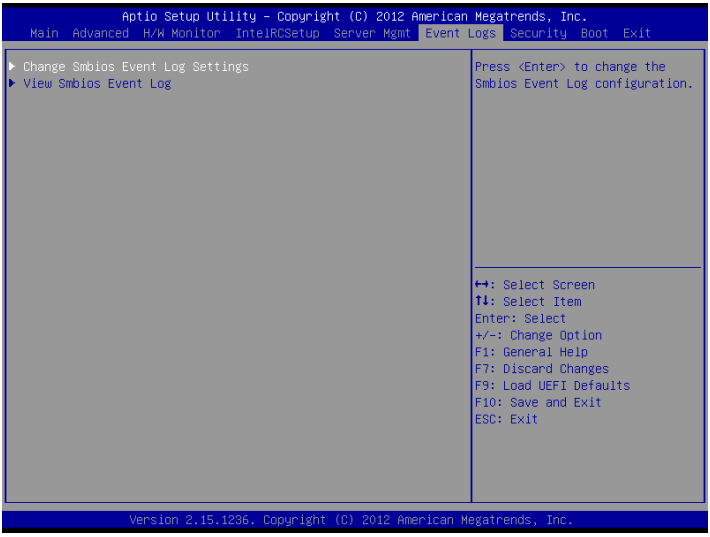
Configuration > Network Settings

(Example image only)

For more instructions on how to set up remote control environment and use the IPMI management platform, please refer to the IPMI Configuration User Guide or go to the Support website at: http://www.asrockrack.com/support/ipmi.asp

English

3.7 Event Logs


Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.
Main Advanced H/W Monitor IntelRCSetup Server Mgmt Event Logs Security Boot Exit
Change Smbios Event Log Settings
View Smbios Event Log
Press <Enter> to change the Smbios Event Log configuration.
↔: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Option
F1: General Help
F7: Discard Changes
F9: Load UEFI Defaults
F10: Save and Exit
ESC: Exit
Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.

Change Smbios Event Log Settings

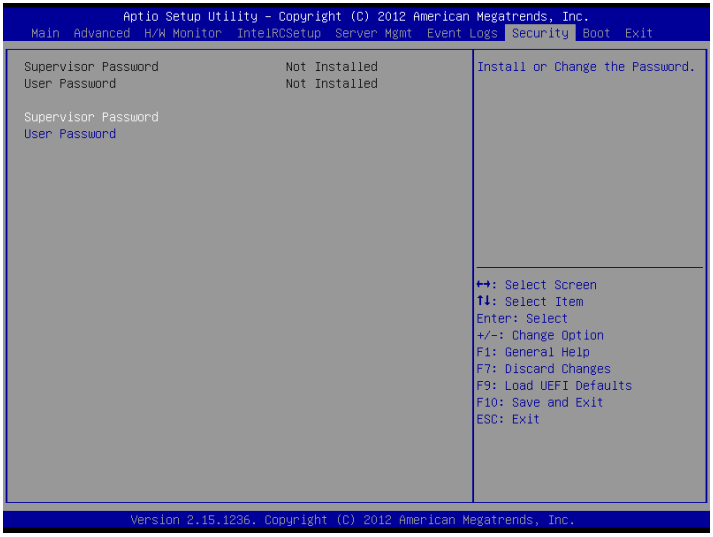
This allows you to configure the Smbios Event Log Settings.

View Smbois Event Log

This allows you to view the Smbios Event Log.

3.8 Security Screen

In this section, you may set or change the supervisor/user password for the system. For the user password, you may also clear it.


Aptio Setup Utility – Copyright (C) 2012 American Megatrends, Inc.
Main Advanced H/W Monitor IntelRCSetup Server Mgmt Event Logs Security Boot Exit
Supervisor Password Not Installed
User Password Not Installed
Supervisor Password
User Password
Install or Change the Password.
↔: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Option
F1: General Help
F7: Discard Changes
F9: Load UEFI Defaults
F10: Save and Exit
ESC: Exit
Version 2.15.1236. Copyright (C) 2012 American Megatrends, Inc.

Supervisor Password

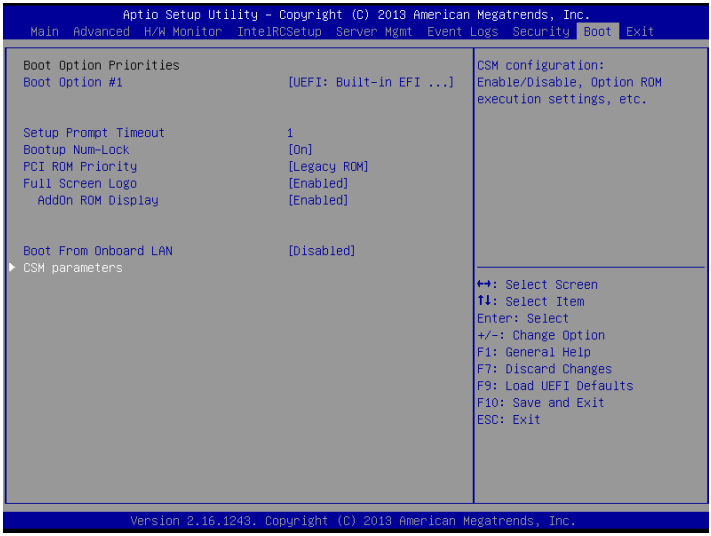
Set or change the password for the administrator account. Only the administrator has authority to change the settings in the UEFI Setup Utility. Leave it blank and press enter to remove the password.

User Password

Set or change the password for the user account. Users are unable to change the settings in the UEFI Setup Utility. Leave it blank and press enter to remove the password.

3.9 Boot Screen

In this section, it will display the available devices on your system for you to configure the boot settings and the boot priority.


Aptio Setup Utility – Copyright (C) 2013 American Megatrends, Inc.
Main Advanced H/W Monitor IntelRCSetup Server Mgmt Event Logs Security Boot Exit
Boot Option Priorities
Boot Option #1 [UEFI: Built-in EFI ...]
Setup Prompt Timeout 1
Bootup Num-Lock [On]
PCI ROM Priority [Legacy ROM]
Full Screen Logo [Enabled]
AddOn ROM Display [Enabled]
Boot From Onboard LAN [Disabled]
CSM parameters
CSM configuration:
Enable/Disable, Option ROM
execution settings, etc.
↔: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Option
F1: General Help
F7: Discard Changes
F9: Load UEFI Defaults
F10: Save and Exit
ESC: Exit
Version 2.16.1243. Copyright (C) 2013 American Megatrends, Inc.

Boot Option #1

Use this item to set the system boot order.

Setup Prompt Timeout

This shows the number of seconds to wait for setup activation key.

Bootup Num-Lock

If this item is set to [On], it will automatically activate the Numeric Lock function after boot-up.

PCI ROM Priority

Use this item to adjust PCI ROM Priority. The default value is [LegacyROM]

Full Screen Logo

Use this item to enable or disable OEM Logo. The default value is [Enabled].

AddOn ROM Display

Use this option to adjust AddOn ROM Display. If you enable the option “Full Screen Logo” but you want to see the AddOn ROM information when the system boots, please select

[Enabled]. Configuration options: [Enabled] and [Disabled]. The default value is [Enabled].

Boot From Onboard LAN

Use this item to enable or disable the Boot From Onboard LAN feature.

CSM Parameters

Use this option to configure the parameters of OpROM execution, boot options filter, etc.

Boot Option Filter

Use this option to control what devices system can boot to. Configuration options: [UEFI and Legacy], [Legacy only] and [UEFI only].

Launch Storage OpROM Policy

Select UEFI only to run those that support UEFI option ROM only. Select [Legacy only] to run those that support legacy option ROM only.

3.10 Exit Screen

Save Changes and Exit

When you select this option, the following message “Save configuration changes and exit setup?” will pop-out. Select [Yes] to save the changes and exit the UEFI SETUP UTILITY.

Discard Changes and Exit

When you select this option, the following message “Discard changes and exit setup?” will pop-out. Select [Yes] to exit the UEFI SETUP UTILITY without saving any changes.

Discard Changes

When you select this option, the following message “Discard changes?” will pop-out. Select [Yes] to discard all changes.

Load UEFI Defaults

Load UEFI default values for all the setup questions. F9 key can be used for this operation.

Chapter 4 Software Support

4.1 Install Operating System

This motherboard supports Microsoft® Windows® Server 2008 R2 SP1 (64 bit) / 2012 (64 bit) / Linux compliant. Because motherboard settings and hardware options vary, use the setup procedures in this chapter for general reference only. Refer your OS documentation for more information.

**Please download the Intel® SATA Floppy Image driver from the ASRock Rack's website (www.asrockrack.com) to your USB drive or simply install the SATA driver from the Support CD while installing OS in SATA RAID mode.*

4.2 Support CD Information

The Support CD that came with the motherboard contains necessary drivers and useful utilities that enhance the motherboard's features.

4.2.1 Running The Support CD

To begin using the support CD, insert the CD into your CD-ROM drive. The CD automatically displays the Main Menu if "AUTORUN" is enabled in your computer. If the Main Menu does not appear automatically, locate and double click on the file "ASRSetup.exe" from the root folder in the Support CD to display the menu.

4.2.2 Drivers Menu

The Drivers Menu shows the available device's drivers if the system detects installed devices. Please install the necessary drivers to activate the devices.

4.2.3 Utilities Menu

The Utilities Menu shows the application softwares that the motherboard supports. Click on a specific item then follow the installation wizard to install it.

4.2.4 Contact Information

If you need to contact ASRock Rack or want to know more about ASRock Rack, welcome to visit ASRock Rack's website at http://www.ASRockRack.com; or you may contact your dealer for further information.

Chapter 5 Troubleshooting

5.1 Troubleshooting Procedures

Follow the procedures below to troubleshoot your system.

Always unplug the power cord before adding, removing or changing any hardware components. Failure to do so may cause physical injuries to you and damages to motherboard components.

1. Disconnect the power cable and check whether the PWR LED is off.
2. Unplug all cables, connectors and remove all add-on cards from the motherboard. Make sure that the jumpers are set to default settings.
3. Confirm that there are no short circuits between the motherboard and the chassis.
4. Install a CPU and fan on the motherboard, then connect the chassis speaker and power LED.

If there is no power...

1. Confirm that there are no short circuits between the motherboard and the chassis.
2. Make sure that the jumpers are set to default settings.
3. Check the settings of the 115V/230V switch on the power supply.
4. Verify if the battery on the motherboard provides ~3VDC. Install a new battery if it does not.

If there is no video...

1. Try replugging the monitor cables and power cord.
2. Check for memory errors.

If there are memory errors...

1. Verify that the DIMM modules are properly seated in the slots.
2. Use recommended DDR3 1600/1333/1066 non ECC, unbuffered DIMMs.
3. If you have installed more than one DIMM modules, they should be identical with the same brand, speed, size and chip-type.
4. Try inserting different DIMM modules into different slots to identify faulty ones.
5. Check the settings of the 115V/230V switch on the power supply.

Unable to save system setup configurations...

1. Verify if the battery on the motherboard provides ~3VDC. Install a new battery if it does not.
2. Confirm whether your power supply provides adaquate and stable power.

Other problems...

1. Try searching keywords related to your problem on ASRock Rack's FAQ page: http://www.asrockrack.com/support

5.2 Technical Support Procedures

If you have tried the troubleshooting procedures mentioned above and the problems are still unsolved, please contact ASRock Rack's technical support with the following information:

1. Your contact information
2. Model name, BIOS version and problem type
3. System configuration
4. Problem description

You may contact ASRock Rack's technical support at:
http://www.asrockrack.com/support/tsd.asp

5.3 Returning Merchandise for Service

For warranty service, the receipt or a copy of your invoice marked with the date of purchase is required. By calling your vendor or going to our RMA website (http://event.asrockrack.com/tsd.asp) you may obtain a Returned Merchandise Authorization (RMA) number.
The RMA number should be displayed on the outside of the shipping carton which is mailed prepaid or hand-carried when you return the motherboard to the manufacturer. Shipping and handling charges will be applied for all orders that must be mailed when service is complete.

This warranty does not cover damages incurred in shipping or from failure due to alteration, misuse, abuse or improper maintenance of products.

Contact your distributor first for any product related problems during the warranty period.

Chapter 6: Net Framework Installation Guide

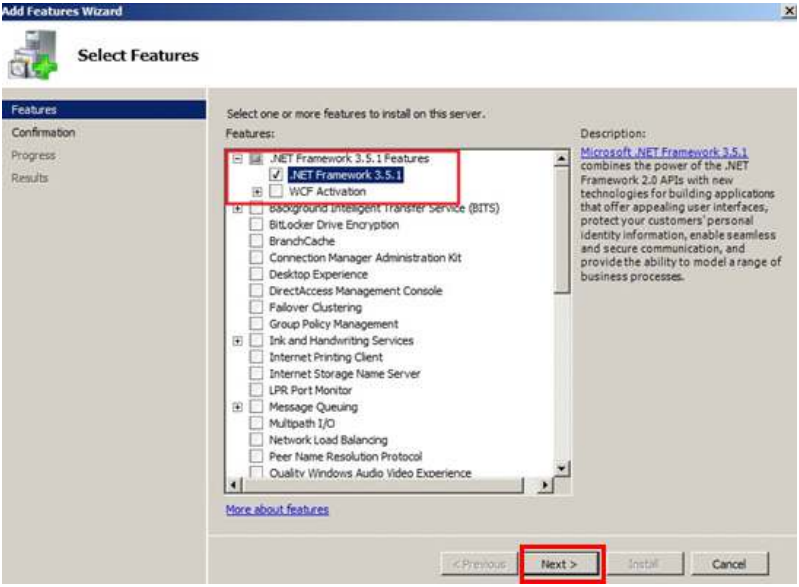
To let Intel® RSTe works properly, it is required to install Net Framework. Please follow the steps below to enable ".Net Framework" feature on Microsoft® Windows® Server 2008 R2.

6.1 Installing .Net Framework 3.5.1 (For Server 2008 R2)

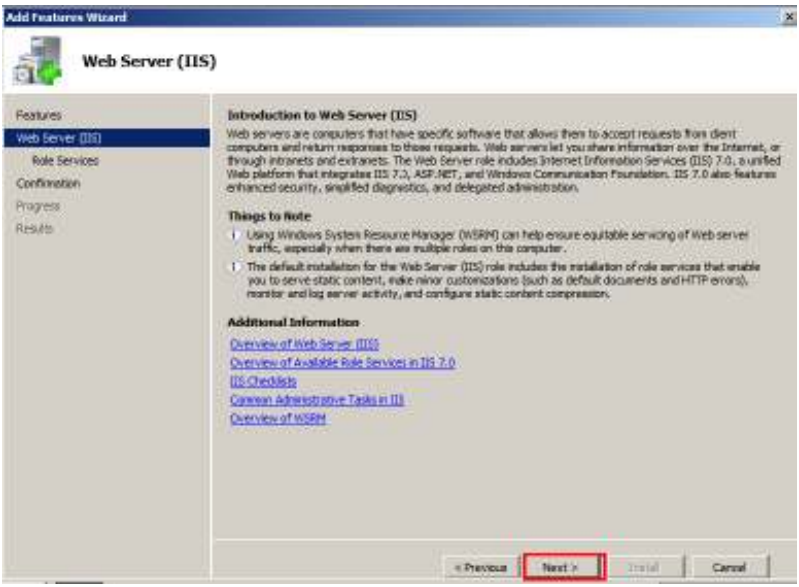
1. Double-click the Server Manager icon in the Windows system tray.

2. Click Add Features in the right hand pane.

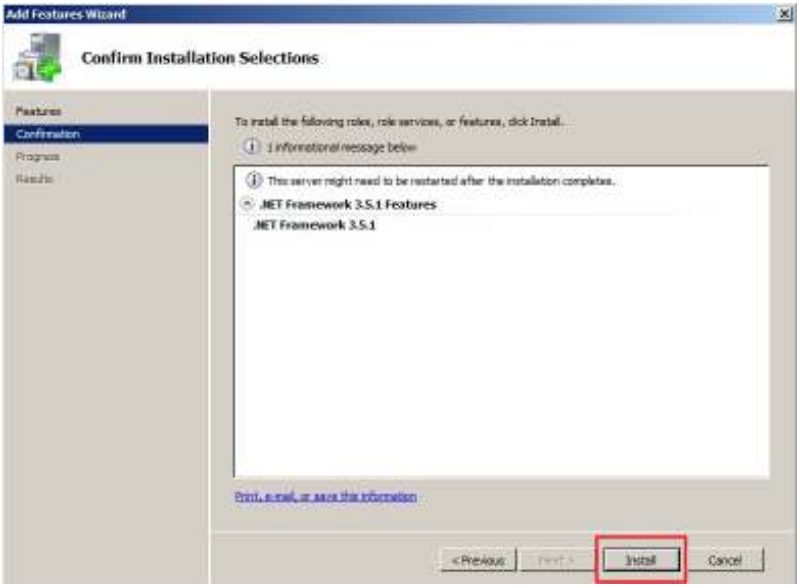
3. Check the box next to .Net Framework 3.5.1 and then click **Next.**


Add Features Wizard
Select Features
Features
Confirmation
Progress
Results
Select one or more features to install on this server.
Features:
.NET Framework 3.5.1 Features
.NET Framework 3.5.1
WCF Activation
Background Intelligent Transfer Service (BITS)
BitLocker Drive Encryption
BranchCache
Connection Manager Administration Kit
Desktop Experience
DirectAccess Management Console
Failover Clustering
Group Policy Management
Ink and Handwriting Services
Internet Printing Client
Internet Storage Name Server
LPR Port Monitor
Message Queuing
Multipath I/O
Network Load Balancing
Peer Name Resolution Protocol
Quality Windows Audio Video Experience
Description:
Microsoft .NET Framework 3.5.1 combines the power of the .NET Framework 2.0 APIs with new technologies for building applications that offer appealing user interfaces, protect your customers' personal identity information, enable seamless and secure communication, and provide the ability to model a range of business processes.
More about features
< Previous
Next >
Install
Cancel

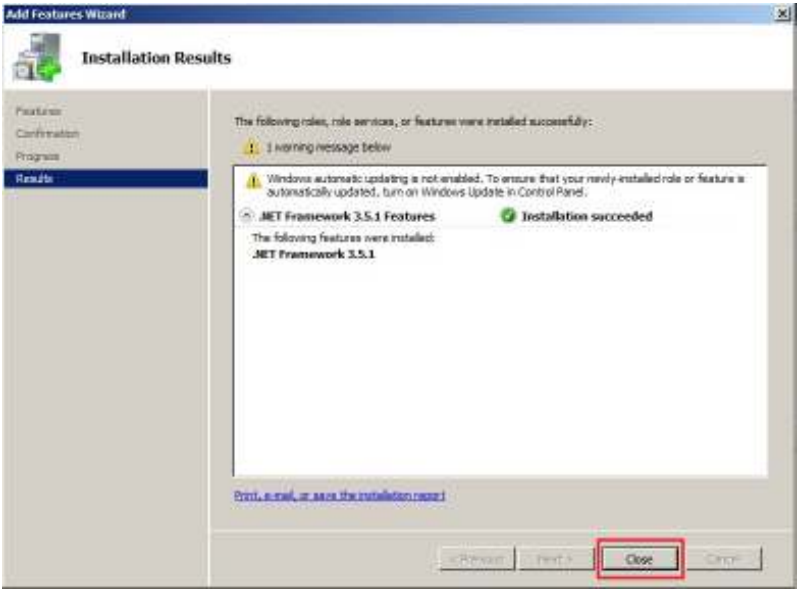
4. Click **Next** to continue.


Add Features Wizard
Web Server (IIS)
Features
Web Server (IIS)
Role Services
Confirmation
Progress
Results
Introduction to Web Server (IIS)
Web servers are computers that have specific software that allows them to accept requests from client computers and return responses to those requests. Web servers let you share information over the Internet, or through intranets and extranets. The Web Server role includes Internet Information Services (IIS) 7.0, a unified Web platform that integrates IIS 7.0, ASP.NET, and Windows Communication Foundation. IIS 7.0 also features enhanced security, simplified diagnostics, and delegated administration.
Things to Note
Using Windows System Resource Manager (WSRM) can help ensure equitable servicing of Web server traffic, especially when there are multiple roles on this computer.
The default installation for the Web Server (IIS) role includes the installation of role services that enable you to serve static content, make minor customizations (such as default documents and HTTP errors), monitor and log server activity, and configure static content compression.
Additional Information
Overview of Web Server (IIS)
Overview of Available Role Services in IIS 7.0
IIS Checklists
Common Administrative Tasks in IIS
Overview of WSRM
< Previous
Next >
Install
Cancel

5. Click **Install** to start installing .Net Framework 3.5.1.



6. After the installation completes, click **Close.**


Add Features Wizard
Installation Results
Features
Confirmation
Progress
Results
The following roles, role services, or features were installed successfully:
1 warning message below
Windows automatic updating is not enabled. To ensure that your newly-installed role or feature is automatically updated, turn on Windows Update in Control Panel.
.NET Framework 3.5.1 Features
Installation succeeded
The following features were installed:
.NET Framework 3.5.1
Print, e-mail, or save the installation report
< Previous
Next >
Close
Cancel